



INSIDE TRACKS

FWP's Northwest Montana Big Game Survey and Inventory Program 2008

How we are funded, how the money is used, and how we set seasons.

A cornerstone of wildlife and habitat management is survey and inventory. From loons and furbearers to big game, Montana Fish, Wildlife & Parks biologists take to the field each year to document trends in wildlife populations. If we are locating radio-collared grizzly bears or wolves, we use an airplane to home in on the signal from the collar and locate the animal. But due to the remote, forested, and rugged nature of northwest Montana, most of our aerial surveys are done from a helicopter.

An aerial photograph showing a herd of approximately 15-20 elk running across a rocky, sparsely vegetated landscape. The elk are brown with lighter-colored rumps, and they are moving in a general direction towards the bottom left of the frame. The ground is covered with small rocks, gravel, and patches of green and brown vegetation.

There is great interest from the local communities of northwest Montana in an annual aerial look at their local big game herds by their area wildlife

biologists. From an agency credibility standpoint, these annual surveys are critical. Flight time in a helicopter is expensive. Even with our own FWP helicopter, it costs approximately \$500 an hour out of our aerial survey and inventory budgets. For that reason we have to prioritize what big game species are surveyed and where the surveys will occur. We do not use aerial surveys as a total count of animals because that would be impossible in northwest Montana due to all of the trees and hiding cover. Rather, we count animals on established trend areas on small parts of a hunting district where animals are typically visible from the air, such as an open hillside or an area that greens up early in spring and concentrates deer or elk. We then can count the number of fawns or calves and adults in the herd to establish a ratio for that given year. This young-to-adult ratio is compared to previous years to estimate population trend. Spring recruitment

A group of approximately 12-14 goats are scattered across a steep, rocky mountain slope. The goats are mostly white, with some having black or dark patches. They are grazing on sparse vegetation and small shrubs growing between the rocks. The slope is composed of layered, light-colored rock faces. A small, dark green tree is visible near the top center of the image. The overall scene depicts a typical pastoral landscape in a mountainous region.

The mountain goat photo corresponds with group size 20 on this helicopter survey map.

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Thompson Falls-based Area Wildlife Biologist Bruce Sterling collecting tooth data at the Thompson Falls check station.



Libby-based Area Wildlife Biologist Jerry Brown surveying alpine habitats in the Cabinet Wilderness.



In addition to wildlife research, FWP area wildlife biologists also conduct annual furbearer track surveys. Eureka-based Area Wildlife Biologist Tim Thier is holding a tranquilized lynx – Purcell Mountains

Big Game Survey

continued from cover

ratios are also useful to estimate the effects of winter weather, summer drought, or predation, and any potential impacts they may have on local herds.

As a hunter you may also get a phone call from FWP after the hunting season asking you about your hunt and what you harvested. This is FWP's annual statewide hunter harvest survey used to establish statistically valid total harvest estimates for big game at the individual hunting district level. Here in northwest Montana we use this data along with that from flights and check stations to analyze long-term big game population trends. The trend of the population in turn influences what biologists recommend to the FWP Commission for both hunting season structures and the level of antlerless hunting opportunity.

Another form of wildlife survey and inventory is "population reconstruction." Sounds fancy, but it's actually quite useful. When you as a hunter pull into an FWP check station and we extract a tooth from your deer or elk, we send that tooth to a lab and get an accurate age of the animal. We usually get a pretty big sample – 1,000 to 1,200 whitetail bucks from northwest Montana. For example, in 2007, 789 whitetail bucks, or 74% of all the bucks checked were 2 1/2 years old or older. That represents a lot of 4- and 5-point bucks! We use this age class data, along with hunter surveys and known mortality rates from a 10-year intensive whitetail study in Region 1, we "reconstruct" the deer herds from previous years, providing another tool to examine population trends. So big game check stations and hunter comments are another important part of our annual season-setting process as well and an important survey and inventory activity. Similar to aerial flights, check stations are funded out of the same regional wildlife survey and inventory budgets.

There is, however, no substitute for a wildlife biologist being in the field. Biologists spend many days in the field hiking and collecting all sorts of information related to wildlife and wildlife habitat. For example, are mountain goats still using a particular alpine area in the aerial survey route? Are large snowfields still present in late summer that produce moist areas for succulent summer forage that bolster both high country mule deer and mountain goat populations? Does a particular summer or fall represent dry conditions and poor ungulate forage in a particular basin? What is the size of mountain grouse broods based on birds flushed during field hikes? What are the habitat conditions or impacts of a recent burn in a particular hunting district? How are wildlife populations utilizing private land? This vital field time is a wildlife survey and inventory activity that is often taken for granted, but nonetheless very important.

So how much do we have to spend on this wildlife work and who pays for it? As a hunter, you pay for all of it. There are no tax dollars from the state's general fund in FWP's big game budget. Instead, your purchase of Montana hunting licenses and dollars matched to federal taxes Montana receives from purchases of firearms and ammunition pay for all of it. If you are a hunter you can hold your head high knowing that you are paying almost exclusively for one of Montana's most significant wildlife management activities. In fact, through this funding



Big Game Survey continued from page two

mechanism, hunters have almost exclusively paid for the restoration and management of game populations since 1937 when the federal tax program was enacted.

In northwest Montana our “base budget” for survey and inventory in 2009 is \$50,316. This gets split up between four area wildlife biologists (Libby, Thompson Falls, Eureka, and Kalispell) and the regional wildlife program manager. We also get some much needed funding from the moose, mountain goat, and bighorn sheep auction funds. All of these hunter dollars pay for aerial surveys, vehicle mileage, travel expenses, and equipment associated with wildlife survey work. We do not have enough money any more to survey every hunting district from the air, so we prioritize what species and which districts we will fly. Below is a table breaking down the hunter dollars in Region One’s total Wildlife Division operating budget. You can see that Survey and Inventory (including Region One’s share of the state’s goat, moose, and bighorn sheep auction accounts) makes up most of the budget. Even so, with the helicopter at \$500 an hour, airplane time from \$70 to \$450 an hour, regular gas at almost \$4 per gallon, and all the other expenses, it gets eaten up pretty quickly. 🐾

Table 1: Annual Northwest Montana R-1 Wildlife Operations Budget

	State Program	Federal Admin	Survey & Inventory	Goat	Moose Auction	Bighorn Sheep Auction
Staff	5181	5110	5122	512105		5191
Jerry	2,000	0	12,000	3,000	3,000	1,500
Bruce	2,000	0	12,000	0	0	3,000
Tim	2,000	0	9,000	0	3,000	0
John	2,000	0	9,000	3,000	0	0
Jim	5,362	2,000	8,316*	0	0	0
TOTAL R-1 Survey and Inventory			\$50,316	\$6,000	\$6,000**	\$4,500

Project 512107 R-1 WT/MD/ELK Teeth and Check Stations \$7,000

*R-1 Bear/Lion/Moose/Goat teeth analysis comes from this account.
** Subject to annual moose auction allocation (this has been our previous amount).

Table 2: Annual Big Game Classification Costs from August 2007 to August 2008

	Elk	Mule Deer	Bighorn Sheep	Moose	Mountain Goat	Whitetail Deer
FLIGHT HOURS**	39.5	9.7	18.3	21.2	31.8	Check Stations
ANNUAL COST	\$18,963.16	\$4,656.78	\$8,785.46	\$10,177.70	\$15,266.54	\$7,000.00
TOTAL ANNUAL FLIGHT/CHECK STATION COST - \$64,849.67**						

** Cost does not include helicopter round trip ferry times from Missoula to aerial survey location. Additional funds were approved to complete necessary aerial surveys representing the additional expenditures in the total annual flight costs.





Kalispell-based Area Wildlife Biologist John Vore conducting field work in northwest Montana summer elk habitat.

Northwest Montana 2008 Elk Population Status and Surveys


Elk population trends in northwest Montana have been steadily increasing until this past winter. Biologists classified over 3,400 elk representing a cow/calf ratio of 19 calves per 100 cows. This is below our long-term average of 27 elk calves per 100 cows. This may in part be due to a more significant winter in the west half of the region along the Idaho border where deep snows persisted from late January through March. Because of fewer elk observed and lower recruitment, we did reduce antlerless permits in Hunting District 121 or the Lower Clark Fork from 800 to 500 permits. 🐾

ELK SURVEY FLIGHTS FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Flight Hours/ Ground Miles	Total Number of Animals Observed	Bulls Observed	Cows Observed	Calves Observed	Calves Per 100 Cows	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	Helicopter	2.5	82	12	56	14	25	No change from 2007
103	Helicopter	6	477	61	258	82	32	No change from 2007
104	Helicopter	2.5	128	29	80	19	24	No change from 2007
110	Vehicle	100	45	0	19	3	16	No change from 2007
121	Helicopter	14	1,356	201	984	141	14	Reduce cow permits from 800 to 500.
123	Helicopter	3.3	309	41	214	36	17	No change from 2007
124	Helicopter	1.7	138	10	107	21	20	No change from 2007
140	Airplane	1	120	17	90	13	14	No change from 2007
150	Airplane	1.5	280	25	225	30	13	No change from 2007
109	Helicopter	2.7	233	5	41	15	37	No change from 2007
120	Airplane	2	27	2	19	6	32	No change from 2007
101	Helicopter	1.7	46	2	33	11	33	No change from 2007
130	Airplane	0.6	203	9	156	38	24	No change from 2007
R-1	R-1	139.5	3,444	414	2282	429	19	



Northwest Montana 2008 Mule Deer Population Status and Surveys

Mule deer populations in northwest Montana have also been increasing steadily for the last 10 years. In fact, our biologists have observed a recruitment rate during helicopter surveys of 25 fawns per 100 adult deer. In some areas, such as the northern Whitefish Range, spring mule deer fawn:adult ratios have been as high as 38 fawns per 100 adults. We are also seeing more older mule deer bucks at game check stations, and some are actually qualifying for the Boone and Crockett records book. With recruitment rates remaining strong and trends indicating increasing populations, we are able to continue the current mule deer hunting season structure this year. 



An older age class mule deer buck at a northwest Montana check station in 2007.

MULE DEER SURVEY FLIGHTS FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Flight Hours/ Ground Miles	Total Number of Animals Observed	Adults Observed	Fawns Observed	Fawns Per 100 Cows	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	Vehicle		68	54	14	26	No change from 2007
101	Helicopter	1.7	11	8	3	38	No change from 2007
103	Helicopter	3	505	395	91	23	No change from 2007
109	Helicopter	2.7	414	273	84	31	No change from 2007
121	Helicopter	2.3	347	272	56	21	Increased B-Tags
109	Vehicle	50	206	44	17	39	No change from 2007
110	Vehicle	50	19	16	3	19	No change from 2007
R-1			1570	1062	268	25	





Northwest Montana 2008 Whitetail Deer Population Status and Surveys

During the 2007 hunting season in Montana, there were an estimated 156,935 hunters who spent 1,115,478 days afield hunting both mule and white-tailed deer, and they harvested 65,664 whitetails. Northwest Montana or Region One accounted for 18 and 22 percent of the hunters (28,181) and hunter days (245,987), respectively. Thirty percent of the state's harvest of antlered whitetails came from Region One.

Region One's total whitetail harvest is now about where it was in the mid 1990s; buck harvests are comparable to the late 1980s. In 1997, following three consecutive years of reduced buck harvests, liberal hunting seasons, increasing predation rates primarily from mountain lions, combined with heavy snowfall in 1996, led us to drastically reduce harvest of antlerless whitetails. Whitetail populations responded, and over the following years we have gradually increased antlerless harvest opportunity that is reflected in the increasing total harvest. The antlerless harvest of 2007 is second only to that of 1996 during the last 27 years that we have tracked antlerless whitetail harvest through our harvest surveys.

During the general hunting season of 2007 there were 1,964 whitetails (1,065 antlered bucks and 899 does and fawns) checked through Region One's check stations, 13% of the estimated total harvest. So FWP personnel physically looked at about one of every eight whitetails taken in the region.

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WHITE-TAIL DEER SURVEYS FOR FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Total Number of Animals Observed	Adults Observed	Fawns Observed	Fawns Per 100 Adults	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	GR	805	675	130	19	No change from 2007
101	GR	230	108	41	38	No change from 2007
102	GR	163	120	38	32	No change from 2007
103	GR	214	173	41	24	No change from 2007
104	GR	226	187	39	21	No change from 2007
109	GR	378	167	76	46	No change from 2007
110	GR	46	37	9	24	No change from 2007
121	GR	936	637	149	46	No change from 2007
122	GR	101	78	18	23	No change from 2007
123	GR	269	188	66	35	No change from 2007
124	GR	146	92	39	42	No change from 2007
130	GR	924	669	255	38	No change from 2007
132	GR	465	344	108	32	No change from 2007
120	GR	209	163	46	28	No change from 2007
R-1		5112	3638	1055	29	



MOUNTAIN GOAT SURVEY FLIGHTS FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Flight Hours/ Ground Miles	Total Number of Animals Observed	Adults/ Nonkids Observed	Kids Observed	Kids Per 100 Adults	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	Helicopter	9.8	88	67	21	31	No change in permits
101	Helicopter	8	56	46	10	22	No change in permits
133/150/151	Helicopter	9	64	52	12	23	No change in permits
133/150/151	Helicopter	5	63	48	15	31	No change in permits
TOTALS		31.8	271	213	58	27	

Northwest Montana 2008 Mountain Goat Population Status and Surveys

Mountain goats live in extremely rugged and remote country and are difficult to survey, even from the air. In northwest Montana mountain goat populations in the Cabinet Mountain Wilderness and West Cabinet Mountains have been relatively stable and are surveyed from a helicopter every other year. The Cabinet Mountain goat hunting districts offer a combined 12 permits on an annual basis. In the Bob Marshall Wilderness complex, mountain goat populations have remained stable, but we have reduced the number of permits recently in an effort to increase populations. After extensive aerial surveys in both the Cabinets and the Bob Marshall Wilderness complex, biologists observed an overall recruitment rate of 27 kids per 100 adults. This indicates good kid production this year and hopefully stable-to-increasing mountain goat herds in northwest Montana. 🐾

Northwest Montana 2008 Moose Population Status and Surveys

Northwest Montana's moose herds have been stable to slightly increasing since the decline of the mid 1990s. Wildlife biologists observed an overall recruitment rate of 29 calves per 100 adults for moose during helicopter surveys in northwest Montana this past December. Moose populations appear to be most productive in the western half of Region One and the northern Salish Mountains. Based on information collected from aerial surveys and hunters, we recommended an increase in moose hunting permits for this season.



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Whitetail Deer

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FWP wildlife biologists surveyed 5112 white-tailed deer in the spring of 2008 on traditional vehicle-based trend routes and classified 4,693 of them. The observed ratio of 29 fawns per 100 adults is below average of 50:100 and the lowest since the springs of 1997 and 1998. This year's ratio was due, no doubt, to the heavy, long-lasting snow cover over most of the region. Especially hard hit, however, was the western part. According to local biologists Jerry Brown in Libby and Bruce Sterling in Thompson Falls, snow during the 2007-08 winter was as bad or worse than that in 1996-97. Many spring surveys, usually done in April, were delayed two-to-three weeks because snow remained on survey routes and delayed spring green. Delayed onset of spring plant growth can have a big effect on fawn recruitment, whether or not it follows a heavy snow year, as the deer struggle to recover from normal winter weight loss. In the western hunting districts north of the Clark Fork River combined, Districts 100, 103, 104, 121, and 122, the fawn:adult ratio was only 22:100, while in the rest of the region combined it was 37:100. 🐾



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MOOSE SURVEY FLIGHTS FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Flight Hours/ Ground Miles	Total Number of Animals Observed	Bulls Observed	Cows Observed	Calves Observed	Calves Per 100 Cows	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	Helicopter	3	25	11	11	3	27	No change from 2007
102	Helicopter	3	30	18	8	3	38	Increase ES permits from 15 to 18
105	Helicopter	3	74	21	41	12	29	No change from 2007
106	Helicopter	3	30	19	8	3	38	No change from 2007
110	Helicopter	3.2	65	31	29	5	13	No change from 2007
111	Helicopter	3	No survey					No change from 2007
122	Helicopter	3	No survey					No change from 2007
R-1		21.2	224	100	97	26	27	

BIGHORN SHEEP SURVEY FLIGHTS FY08

HD	Survey Type (F/S; F/C; H/S; H/C; GR)	Flight Hours/ Ground Miles	Total Number of Animals Observed	Rams Observed	Ewes Observed	Lambs Observed	Lambs Per 100 Ewes	Management Action Proposed to Commission for 2008 Season; or Not Completed; or Other Utility
100	Helicopter	3	79	31	40	8	20	Will increase ES permits from 1-2
102	Helicopter	2.7	61	12	36	13	36	No change from 2007
121	Helicopter	2.5	270	80	106	31	29	No change from 2007
122	Helicopter	2.1	141	53	66	22	33	Increase ewe permits from 4 to 8
123	Helicopter	2	78	10	53	15	28	No change from 2007
124	Helicopter	3	324	122	149	51	34	No change from 2007
Wild Horse	Helicopter	1.3	150	58	62	19	31	Removed 40 sheep
101	Helicopter	1.7	2	2	0	0	0	Closed season
R-1		18.3	1105	368	512	159	31	

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Northwest Montana 2008 Bighorn Sheep Population Status and Surveys

Northwest Montana's bighorn sheep herds have been stable or increasing for a number of years. This year wildlife biologists classified 1,105 bighorn sheep from helicopter surveys saw 31 lambs per 100 ewes. The total number of sheep observed in each district, along with lamb production, indicates increasing bighorn sheep populations, and we will probably be recommending new bighorn sheep hunting opportunities for next year.



VISIT...

Visit our local FWP website: On your search engine, type in "fwp.mt.gov" and click on the "1" on the Regional Map of Montana.

LISTEN...

Listen to FWP's Montana Wildlife Radio Show, on KALS 97.1 FM and other FM stations around the state Saturdays at 7:25 a.m.